

Listing of Claims:

1. (Currently amended) A slurry for chemical mechanical polishing (CMP) ~~of a structure including a refractory metal based barrier film and a dielectric film~~, comprising:

a bulk solution;

a plurality of ~~particles wherein said particles comprise at least one of:~~

nanosize nanoporous comprising particles;

~~composite particles formed from a first solid material coated with a second solid material, said second solid material being different from said first material, and~~

~~two phase composite particles where a first solid material phase is blended with a second solid material phase different from said first material phase.~~

2. (Previously presented) The slurry of claim 1, further comprising at least one selective adsorption additive, wherein said selective adsorption additive is in a concentration of from 6 to 1,000 critical micelle concentration (CMC) when said selective adsorption additive is non-ionic and from 1 to 1,000 CMC when said selective adsorption additive is zwitterionic, anionic or cationic, said selective adsorption additive self assembling in said bulk solution.

3. (Previously presented) The slurry of claim 2, wherein said selective adsorption additive comprises at least one cationic, anionic or zwitterionic surfactant, wherein a minimum concentration of said surfactant is 6 CMC.

4. (Previously presented) The slurry of claim 2, wherein selective adsorption additive comprises at least one cationic, anionic or zwitterionic surfactant, wherein a minimum concentration of said surfactant is 10 CMC.

5. (Previously presented) The slurry of claim 2, wherein said selective adsorption additive comprises at least one cationic, anionic or zwitterionic surfactant, wherein a minimum concentration of said surfactant is 20 CMC.

6. (Currently amended) The slurry of claim 1, wherein said ~~nanoparticles~~ nanosize nanoporous particles comprise nanoporous cores ~~[[are]] coated with a second solid material coating or first core material coated with a second material, said second material being a nanoporous coating said first solid material comprises a nanoporous material.~~

7. (Cancelled)

8. (Currently amended) ~~The slurry of claim 1, A slurry for chemical mechanical polishing (CMP) of a structure including a refractory metal based barrier film and a dielectric film,~~
comprising:

a bulk solution;

a plurality of particles, wherein said particles comprise at least one of:

nanoporous particles.

composite particles formed from a first solid material coated with a second solid material,
said second solid material being different from said first material, and
two phase composite particles where a first solid material phase is blended with a second
solid material phase different from said first material phase, and
~~further comprising~~ at least one of a species selected from the group consisting of a
polyhalide ion, I₂, Br₂ and F₂.

9. (Currently amended) The slurry of claim [[2]] 1, wherein an average particle size of
said nanosize nanoporous comprising particles is less than 500 nm. ~~said selective adsorption~~
~~additive exhibits substantial adsorption to said dielectric layer, said dielectric film selected from~~
~~the group consisting of silicon dioxide, silicon nitride and low K materials.~~

10. (Currently amended) The slurry of claim [[2]] 9, wherein said average particle size is
from 200 to 500 nm. ~~selective adsorption additive exhibits adsorption to a copper or silver~~
~~containing film greater than adsorption to said refractory metal based barrier film.~~

11-16. (Cancelled)

17. (Currently amended) The slurry of claim 1, ~~further comprising at least one organic~~
~~solvent~~ wherein a porosity of said nanosize nanoporous particles is in a range from 10 to 60 %.

18. (Currently amended) The slurry of claim 1, ~~further comprising at least one passivating additive for inhibiting the oxidation of a copper or silver containing film~~ wherein said nanosize nanoporous comprising particles comprise a first core material coated with a second material, said second material being a nanoporous coating.

19. (Original) The slurry of claim 18, wherein said passivating additive comprises at least one selected from the group consisting of benzotriazole (BTA), tolytriazole (TTA), imidazole, thiols, mercaptans, oxalic acid, sodium hexanoate and carboxylic acid.

20. (Original) The slurry of claim 1, further comprising at least one complexing agent.

21. (Original) The slurry of claim 20, wherein said complexing agent comprises at least one selected from the group consisting of acetic acid, citric acid, tartaric acid and succinic acid.

22. (Previously presented) The slurry of claim 2, wherein said selective adsorption additive comprises a mixture of at least one anionic surfactant and at least one cationic or zwitterionic surfactant.

23. (Previously presented) The slurry of claim 2, wherein said selective adsorption additive comprises at least one surfactant selected from the group consisting of SAS, SDS, CTAB, and CTAC octylphenol ethylene oxide condensate, polyoxyethylene sorbitan monooleate, and a water soluble copolymer of an average molecular weight of approximately

15,000 consisting of a-olefins and dicarboxylic acids, partially esterified with an ethoxilated alcohol.

24. (Previously presented) The slurry of claim 2, wherein said selective adsorption additive comprises CTAB or CTAC, and said first solid material comprises silica.

25. (Original) The slurry of claim 24, wherein said CTAB comprises C₁₂TAB.

26. (Previously presented) The slurry of claim 25, further comprising an oxidizer selected from the group consisting of hydrogen peroxide, potassium ferrocyanide, potassium iodate, and perchlorates.

27 and 28. (Cancelled)

29. (Previously presented) The slurry of claim 2, wherein said selective adsorption additive comprises at least one polymer.

30. (Original) The slurry of claim 29, wherein said polymer is at least one selected from the group consisting of polyethylene oxide (PEO), polyacrylic acid (PAA), polyacryamide (PAM), polyvinylalcohol (PVA) and polyalkylamine (PAH).

31. (Original) The slurry of claim 1, further comprising at least one salt.

32. (Original) The slurry of claim 31, wherein said salt is at least one selected from the group consisting of chlorides, nitrates and ammonium-based salts.

33. (Original) The slurry of claim 1, wherein a pH of said slurry is from 6 to 13.

34. (Original) The slurry of claim 1, wherein a pH of said slurry is from 8 to 11.

35. (Previously presented) The slurry of claim 1, wherein a concentration of said composite particles in said slurry is from approximately 1% to 40% by weight.

36. (Original) The slurry of claim 1, further comprising at least one oxidizer.

37. (Currently amended) The slurry of claim 36, wherein said oxidizer is at least one selected from the group consisting of hydrogen peroxide, ~~pottasium~~ potassium ferrocyanide, potassium iodate and perchlorates.

38-71. (Cancelled)